DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Scheinert et al* (2007/0054668A1) (hereinafter *Scheinert*) in view of *Keller et al* (6,496,689 B1) (hereinafter *Keller*).

Regarding **claim 1**, *Scheinert* discloses a wireless-communication network system including

a radio-base-station device (=see Fig.1, item 2),

a mobile terminal (=see item 1),

an authentication terminal (=see par.[0010], par.[0011], and par.[0012], wherein the device that house/(utilize for validating users) the EDB, which reads on the authentication terminal),

a controller having a function of generating and/or deleting user-authentication data of the mobile terminal (=see par.[0014], wherein the "UMP" reads on the controller functionality), and

a micro radio-base-station device (=see par.[0071]) which passes on data between the mobile terminal and a communication network, wherein the controller determines whether or not a utilization request transmitted from the authentication terminal is accepted, and transmits the user- authentication data when the utilization request is accepted, or a rejection notification when the utilization request is not accepted to the mobile terminal via the authentication terminal (=see par.[0038], par.[0012] and par.[0013]),

but does not teach: and wherein; when a user-authentication-data-reception-completion notification is transmitted from the mobile terminal, the controller transmits a user-registration-procedure- completion notification to the mobile terminal via the authentication terminal and performs processing for charging a user a utilization fee.

However, in the same field of endeavor, *Keller* does teach: when a user-authentication-data-reception-completion notification is transmitted from the mobile terminal, the controller transmits a user-registration-procedure- completion notification to the mobile terminal via the authentication terminal and performs processing for

charging a user a utilization fee (=see col.4, lines 25-36, wherein the "...adapted to receive charging information" reads on charging for utilization fee).

Therefore, it would have been obvious to any one of ordinary skill in the art at the time of the invention, to have combined the teachings of *Scheinert* and *Keller* to incorporated the charging of mobile services without adding to the complexity of existing devices as stated by *Keller* (=see col.3, lines58 – col.4, line 2).

Regarding **claim 2**, the combination teachings of *Scheinert* and *Keller* discloses a wireless-communication network system according to Claim 1, and *Scheinert* further teaches wherein the micro radio-base-station device receives position-registration-request data to which the user-authentication data is attached from the mobile terminal (=see par.[0039], wherein the "LUR" reads on the request data, and the "IMSI" which reads on the user-authentication data),

compares the user-authentication data and terminal information that are included in the position-registration-request data with a database included in the controller (=see par.[0039], wherein the "EDB checks the IMSI to determine..." reads on compares the user-authentication data),

performs position registration when the user-authentication data and the terminal information agree with the database, and transmits a position-registration-completion notification to the mobile terminal and the controller, and wherein (=see par.[0039], wherein the "ACK" sent reads on the transmits a position-registration-completion notification);

radio communication is started between the mobile terminal which received the position- registration-completion notification and the micro radio-base-station device (=see par.[0039], wherein it is understood that after the said actions in cited par.[0039] is conducted communication occurs).

Regarding **claims 3, 8, 14 and 18**, the combination teachings of *Scheinert* and *Keller* discloses a wireless-communication network system according to Claims 2, 7,13 and 17; and *Scheinert* further teaches wherein the mobile terminal transmits utilization-finish-request data to the controller via the micro radio-base-station device, or the ordering terminal (=see par.[0026] and par.[0055]),

wherein the controller cancels the registered position of the mobile terminal which received the utilization-finish notification, invalidates the user-authentication data, and transmits a utilization-finish-procedure-completion notification to the mobile terminal via the micro-radio-base-station device and/or the ordering terminal (=see par.[0040]),

and *Keller* further teaches wherein when the utilization fee is paid on time, the controller performs processing for charging the user the utilization fee, and transmits the utilization-finish-procedure-completion notification and utilization-fee-statement data to the mobile terminal, and wherein the mobile terminal invalidates the user-authentication data and finishes communicating with a hot spot (=see col.4, lines 25-45).

Regarding **claims 4 and 20**, the combination teachings of *Scheinert* and *Keller* discloses a wireless-communication network system according to Claim 1, and *Scheinert* further teaches wherein the data transmission and/or reception is performed

between the mobile terminal and the authentication terminal by using a communication scheme other than radio communication (=see par.[0045], wherein "OTA" reads on a communication scheme other than radio communication).

Regarding **claim 5**, the combination teachings of *Scheinert* and *Keller* discloses a wireless-communication network system according to Claim 4, and *Scheinert* further teaches wherein the communication scheme other than the radio communication is infrared communication and/or communication using an IC card (=see par.[0045], wherein the "OTA" and "SIM" read on IC card).

Regarding **claim 6**, *Scheinert* discloses a wireless-communication network system including a radio-base-station device (=see Fig.1, item 2),

a mobile terminal (=see item 1),

an authentication terminal (=see par.[0010], par.[0011], and par.[0012], wherein the device that house/(utilize for validating users) the EDB, which reads on the authentication terminal),

a controller having a function of generating and/or deleting user-authentication data of the mobile terminal (=see par.[0014], wherein the "UMP" reads on the controller functionality),

and a micro radio-base-station device (=see par.[0071])

which passes on data between the mobile terminal and a communication network, wherein the controller determines whether or not a utilization request transmitted from the authentication terminal is accepted, and transmits the user-authentication data when the utilization request is accepted, or a rejection notification

when the utilization request is not accepted to the mobile terminal via the authentication terminal (=see par.[0038], par.[0012] and par.[0013]),

transmits encoded-information data used for radio communication performed between the micro-radio-base-station device and the mobile terminal to the mobile terminal upon receiving user-authentication-data-reception completion notification transmitted from the mobile terminal (=see par.[0012]), and

transmits a user-registration-procedure-completion notification to the mobile terminal via the authentication terminal (=see par.[0039], wherein the "generates an ACK" reads on user-registration-procedure-completion notification) and

but fails to teach: performs processing for charging a user a utilization fee upon receiving an encoded-information-reception-completion notification transmitted from the mobile terminal.

However, in the same field of endeavor, *Keller* does teach: performs processing for charging a user a utilization fee upon receiving an encoded-information-reception-completion notification transmitted from the mobile terminal (=see col.4, lines 25-45).

Therefore, it would have been obvious to any one of ordinary skill in the art at the time of the invention, to have combined the teachings of *Scheinert* and *Keller* to incorporated the charging of mobile services without adding to the complexity of existing devices as stated by *Keller* (=see col.3, lines58 – col.4, line 2).

Regarding **claim 7**, the combination teachings of *Scheinert* and *Keller* discloses a wireless-communication network system according to Claim 6, and *Scheinert* further teaches wherein the micro radio-base-station device receives position-registration-

request data transmitted from the mobile terminal, where the user-authentication data is attached to the position-registration-request data (=see par.[0039], wherein the "LUR" reads on the request data, and the "IMSI" which reads on the user-authentication data),

compares the user-authentication data and terminal information that are included in the position-registration-request data with a database included in the controller (=see par.[0039], wherein the "EDB checks the IMSI to determine..." reads on compares the user-authentication data),

performs position registration when the user-authentication data and the terminal information agree with the database, and transmits a position-registration-completion notification to the mobile terminal and the controller (=see par.[0039], wherein the "ACK" sent reads on the transmits a position-registration-completion notification), and

wherein radio communication is started between the mobile terminal which received the position-registration-completion notification and the micro radio-base-station device on the basis of the encoded-information data (=see par.[0039]).

Regarding **claim 9**, the combination teachings of *Scheinert* and *Keller* discloses a wireless-communication network system according to Claim 6, and *Scheinert* further teaches wherein the communication network includes the Internet, an intranet, and a LAN (=see par.[0012] and par.[0039], wherein it is understood that "Internet Base Station Controller" reads on internet and intranet, and "Private Base Station" reads on LAN; and par.[0026]).

Regarding **claim 10**, *Scheinert* discloses a controller of a wireless-communication network system that is connected to an authentication terminal and a

micro radio-base station and that passes on data between a mobile terminal and a communication network, the controller comprising:

a function of generating and/or deleting user-authentication data of the mobile terminal (=see par.[0014], wherein the "UMP" reads on the controller functionality),

wherein the controller determines whether or not a utilization request transmitted from the authentication terminal is accepted, and transmits the user-authentication data when the utilization request is accepted, or a rejection notification when the utilization request is not accepted to the mobile terminal via the authentication terminal, and wherein when a user-authentication-data-reception completion notification is transmitted from the mobile terminal (=see par.[0038], par.[0039], par.[0012] and par.[0013]),

the controller transmits a user-registration-procedure-completion notification to the mobile terminal via the authentication terminal (=see par.[0039], wherein the "generates an ACK" reads on user-registration-procedure-completion notification),

but does not teach: performs processing for charging a user a utilization fee.

However, in the same field of endeavor, *Keller* does teach: performs processing for charging a user a utilization fee (=see col.4, lines 25-45).

Therefore, it would have been obvious to any one of ordinary skill in the art at the time of the invention, to have combined the teachings of *Scheinert* and *Keller* to incorporated the charging of mobile services without adding to the complexity of existing devices as stated by *Keller* (=see col.3, lines58 – col.4, line 2).

Regarding **claim 11**, *Scheinert* discloses a controller of a wireless-communication network system that is connected to an authentication terminal and a micro radio base station and that passes on data between a mobile terminal and a communication network, the controller comprising:

when the utilization request is not accepted to the mobile terminal via the authentication terminal, wherein when a user-authentication-data-reception completion notification is transmitted from the mobile terminal, the controller transmits encoded-information data used for radio communication performed between the micro radio-base-station device and the mobile terminal to the mobile terminal, and wherein when an encoded-information-reception-completion notification is transmitted from the mobile terminal, the controller transmits a user-registration-procedure-completion notification to the mobile terminal via the authentication terminal (=see par.[0040], wherein the "NACK" reads on the user-registration-procedure-completion notification),

but does not teach: performs processing for charging a user a utilization fee.

However, in the same field of endeavor, *Keller* does teach: performs processing for charging a user a utilization fee (=see col.4, lines 25-45).

Therefore, it would have been obvious to any one of ordinary skill in the art at the time of the invention, to have combined the teachings of *Scheinert* and *Keller* to incorporated the charging of mobile services without adding to the complexity of existing devices as stated by *Keller* (=see col.3, lines58 – col.4, line 2).

Regarding **claim 12**, *Scheinert* discloses a communication-service-providing method used in a wireless-communication network system constructed between a

mobile terminal and a micro radio-base-station device via a communication network, the communication-service-providing method comprising the steps of:

determining whether or not a utilization request transmitted from an authentication terminal connected to the micro radio-base-station device is accepted (=see par.[0039]: "The EDB checks the IMSI to determine if a particular mobile phone is authorized…"),

and transmitting the user-authentication data when the utilization request is accepted (=see par.[0039]: "If authorized, the EDB sends a Positive Acknowledgement (ACK)…"),

or a rejection notification when the utilization request is not accepted to the mobile terminal via the authentication terminal (=see par.[0040]: "…if the EDB finds the mobile is unauthorized, the EDB sends a Negative Acknowledgement (NACK) …" wherein the "NACK reads on the rejection notification);

transmitting a user-authentication-data-reception-completion notification to a controller connected to the micro radio-base-station device upon receiving the user-authentication data (=see par.[0039], wherein the "ACK" sent reads on the transmits a position-registration-completion notification);

transmitting encoded-information data used for radio communication performed between the micro radio-base-station device and the mobile terminal upon receiving the user-authentication-data-reception-completion notification (=see par.[0012]);

transmitting an encoded-information-reception-completion notification to the controller via the authentication terminal upon receiving the encoded-information data (=see par.[0039], wherein the "generates an ACK" reads on user-registration-procedure-completion notification);

and receiving the encoded-information-reception-completion notification, transmitting a user-registration-procedure-completion notification to the mobile terminal via the authentication terminal (=see par.[0039], wherein the "generates an ACK" reads on user-registration-procedure-completion notification),

but fails to teach: performing processing for charging a user a utilization fee.

However, in the same field of endeavor, *Keller* does teach: performing processing for charging a user a utilization fee (=see col.4, lines 25-45).

Therefore, it would have been obvious to any one of ordinary skill in the art at the time of the invention, to have combined the teachings of *Scheinert* and *Keller* to incorporated the charging of mobile services without adding to the complexity of existing devices as stated by *Keller* (=see col.3, lines58 – col.4, line 2).

Regarding **claim 13**, the combination teachings of *Scheinert* and *Keller* discloses a communication-service-providing methods used in the wireless-communication network system according to Claim 12, the communication-service-providing method comprising the steps of:

transmitting position-registration-request data including the user-authentication data and terminal information from the mobile terminal (=see par.[0039], wherein the "LUR" reads on the position-registration-request);

comparing the user-authentication data and the terminal information that are included in the transmitted position-registration-request data with a database included in the controller (=see par.[0039], wherein the "EDB checks the IMSI to determine..." reads on compares the user-authentication data);

performing position registration and transmitting a position-registration-completion notification to the mobile terminal and the controller when the user-authentication data and the terminal information agree with the database (=see par.[0039], wherein the "ACK" sent reads on the transmits a position-registration-completion notification), and

starting the radio communication between the mobile terminal which received the position-registration-completion notification and the micro radio-base-station device (=see par.[0039], wherein it is understood that after the said actions in cited par.[0039] is conducted communication occurs).

Regarding **claim15**, the combination teachings of *Scheinert* and *Keller* discloses a communication-service-providing method used in the wireless-communication network system according to Claim 12, wherein the communication network includes the Internet, an intranet, and a LAN (=see par.[0012] and par.[0039], wherein it is understood that "Internet Base Station Controller" reads on internet and intranet, and "Private Base Station" reads on LAN).

Regarding **claim16**, *Scheinert* discloses a program which makes a computer perform communication-service-providing processing in a wireless-communication network system constructed between a mobile terminal and a micro radio-base-station device via a communication network (=see Fig.2, item 6, wherein it is understood that the actions performed by the EDB must contain a software programming means),

the program comprising the steps of: determining whether or not a utilization request transmitted from an authentication terminal connected to the micro radio-base-station device is accepted , and transmitting the user-authentication data when the utilization request is accepted, or a rejection notification when the utilization request is not accepted to the mobile terminal via the authentication terminal (=see par.[0038], par.[0012] and par.[0013]);

transmitting a user-authentication-data-reception-completion notification to a controller connected to the micro radio-base-station device upon receiving the user-authentication data (=see par.[0039], wherein the "generates an ACK" reads on user-registration-procedure-completion notification);

transmitting encoded-information data used for radio communication performed between the micro radio-base-station device and the mobile terminal upon receiving the user-authentication-data-reception-completion notification (=see par.[0012]);

transmitting encoded-information-reception-completion notification to the controller via the authentication terminal upon receiving the encoded-information data

(=see par.[0039], wherein the "ACK" sent reads on the transmits a completion notification);

and receiving the encoded-information-reception-completion notification, transmitting a user-registration-procedure-completion notification to the mobile terminal via the authentication terminal (=see par.[0039], wherein the "ACK" sent reads on the transmits a completion notification),

but does not teach: performing processing for charging a user a utilization fee.

However, in the same field of endeavor, *Keller* does teach: performs processing for charging a user a utilization fee (=see col.4, lines 25-45).

Therefore, it would have been obvious to any one of ordinary skill in the art at the time of the invention, to have combined the teachings of *Scheinert* and *Keller* to incorporated the charging of mobile services without adding to the complexity of existing devices as stated by *Keller* (=see col.3, lines58 – col.4, line 2).

Regarding **claim 17**, the combination teachings of *Scheinert* and *Keller* discloses a program according to Claim 16, and *Scheinert* further teaches making the computer performs the steps of:

transmitting position-registration-request data including the user-authentication data and terminal information from the mobile terminal (=see par.[0039], wherein the "LUR" reads on the position-registration-request);

comparing the user-authentication data and the terminal information that are

included in the transmitted position-registration-request data with a database included in the controller (=see par.[0039], wherein the "EDB checks the IMSI to determine..." reads on compares the user-authentication data);

performing position registration and transmitting a position-registration-completion notification to the mobile terminal and the controller when the user-authentication data and the terminal information agree with the database (=see par.[0039], wherein the "ACK" sent reads on the transmits a position-registration-completion notification), and

starting the radio communication between the mobile terminal which received the position-registration-completion notification and the micro radio-base-station device (=see par.[0039], wherein it is understood that after the said actions in cited par.[0039] is conducted communication occurs).

Regarding **claim 19**, the combination teachings of *Scheinert* and *Keller* discloses a computer-readable information-recording medium (including a compact disk, a flexible disk, a hard disk, a magneto-optical disk, a digital video disk, a magnetic tape, and a semiconductor memory) on which the program according to Claim 16 may is recorded (=see par.[0011], and par.[0043], wherein the SIM reads on information-recording medium).

Regarding **claim 21,** the combination teachings of *Scheinert* and *Keller* discloses a wireless-communication network system according to Claim 3, and *Scheinert* further teaches wherein the data transmission and/or reception is performed between the mobile terminal and the authentication terminal by using a communication scheme other

than radio communication (=see par.[0045], wherein "OTA" reads on a communication scheme other than radio communication).

Regarding **claim 22**, the combination teachings of *Scheinert* and *Keller* discloses a wireless-communication network system according to Claim 7, wherein the communication network includes the Internet, an intranet, and a LAN (=see par.[0012] and par.[0039], wherein it is understood that "Internet Base Station Controller" reads on internet and intranet, and "Private Base Station" reads on LAN).

Regarding **claim 23**, the combination teachings of *Scheinert* and *Keller* discloses a wireless-communication network system according to Claim 8, and *Scheinert* further teaches wherein the communication network includes the Internet, an intranet, and a LAN (=see par.[0012] and par.[0039], wherein it is understood that "Internet Base Station Controller" reads on internet and intranet, and "Private Base Station" reads on LAN).

Regarding **claim 24**, the combination teachings of *Scheinert* and *Keller* discloses a communication-service-providing method used in the wireless-communication network system according to Claim 13, and *Scheinert* further teaches wherein the communication network includes the Internet, an intranet, and a LAN (=see par.[0012] and par.[0039], wherein it is understood that "Internet Base Station Controller" reads on internet and intranet, and "Private Base Station" reads on LAN).

Regarding **claim 25**, the combination teachings of *Scheinert* and *Keller* discloses a communication-service-providing method used in the wireless-communication network system according to Claim 14, wherein the communication network includes the

Internet, an intranet, and a LAN (=see par.[0012] and par.[0039], wherein it is understood that "Internet Base Station Controller" reads on internet and intranet, and "Private Base Station" reads on LAN).

Regarding **claim 26**, the combination teachings of *Scheinert* and *Keller*, and further teaching a computer-readable information-recording medium (including a compact disk, a flexible disk, a hard disk, a magneto-optical disk, a digital video disk, a magnetic tape, and a semiconductor memory) on which the program according to Claim 17 is recorded (=see par.[0043], wherein SIM reads on information-recording medium; and par.[0026]).

Regarding **claim 27,** the combination teachings of *Scheinert* and *Keller* discloses a computer-readable information-recording medium (including a compact disk, a flexible disk, a hard disk, a magneto-optical disk, a digital video disk, a magnetic tape, and a semiconductor memory) on which the program according to Claim 18 is recorded which is further explained in *Scheinert* (=see par.[0011], and par.[0043], wherein the SIM reads on information-recording medium).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN B. BYRD JR. whose telephone number is (571)270-7463. The Examiner can normally be reached on M-F, 7:30am - 5:00pm, EST.

The supervisor, Charles Appiah, can be reached on 571-272-7904, if you are unable to resolve the matter with the assigned Examiner. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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